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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/049,275	02/11/2002	Bjorn Eilertsen	033434-003	9430

21839 7590 06/24/2004

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ALEXANDRIA, VA 22313-1404

EXAMINER

HANSEN, COLBY M

ART UNIT	PAPER NUMBER
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3682

DATE MAILED: 06/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/049,275

Applicant(s)

EILERTSEN, BJORN

Examiner

Colby Hansen

Art Unit

3682

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 May 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2,3,5,7 and 8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 2,3,5,7 and 8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, 3, 5, 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over F'Geppert (US Pat. 3,861,231) in view of Prater (US Pat. 5,906,135).

F'Geppert (US Pat. 3,861,231) discloses a gear wheel defining a center axis and comprising generally radially outwardly projection circumferentially spaced gear teeth and a strengthening ring extending around the gear teeth in coaxial surrounding relationship thereto at axially spaced location along the gear teeth the strengthening ring being fitted radially against the gear teeth.

However F'Geppert (US Pat. 3,861,231) does not disclose the use of a plurality of strengthening rings; nor does F'Geppert (US Pat. 3,861,231) disclose a specific material characteristic or the use of radially inwardly projecting ring teeth in meshing contact with the gear teeth.

Prater (US Pat. 5,906,135) discloses the fixturing arrangement between coaxial gear components wherein the outer component is fixedly and coaxially mounted to an inner component by a ring including generally radially inwardly projecting ring teeth in meshing contact with the teeth of the inner component.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized the mounting arrangement of Prater (US Pat.

Art Unit: 3682

5,906,135) to modify the mounting arrangement of F'Geppert (US Pat. 3,861,231) so as create an axially and radially fixtured force transmitting connection between coaxial components that is easier and cheaper to manufacture, as suggested by Prater (US Pat. 5,906,135).

Also, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized strengthening rings on both ends of the gear of F'Geppert (US Pat. 3,861,231), so as to create a redundancy that would allow for functioning of the gear should catastrophic failure befall the initial strengthening ring, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

Also, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized a shrinking process producing a material-technical tensile/compressive strength within 80% of the 0.2% elastic elongation range of the material, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

The method of strengthening a gear wheel being inherent to the structure of the above combination and case law.

Claims 2, 3, 5, 7, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Pat. 2000-97294.

Japanese Pat. 2000-97294 discloses a gear wheel defining a center axis and comprising generally radially outwardly projecting circumferentially spaced gear teeth

Art Unit: 3682

and a strengthening ring extending around the gear teeth in coaxial surrounding relationship thereto at axially spaced location along the gear teeth the strengthening ring being fitted radially against the gear teeth, the strengthening ring including generally radially inwardly projecting ring teeth in meshing contact with the gear teeth.

However Japanese Pat. 2000-97294 does not disclose two strengthening rings, nor the shrinking process producing a material-technical tensile/compressive strength within 80% of the 0.2% elastic elongation range of the material.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized a plurality of strengthening rings on the gear of Japanese Pat. 2000-97294, so as to create a redundancy that would allow for functioning of the gear should catastrophic failure befall the initial strengthening ring, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized a shrinking process producing a material-technical tensile/compressive strength within 80% of the 0.2% elastic elongation range of the material, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

The method of strengthening a gear wheel being inherent to the structure of the above combination and case law.

Art Unit: 3682

Response to Arguments

Applicant's arguments with respect to claims 2, 3, 5, 7, and 8 have been considered but are moot in view of the new ground(s) of rejection.

FACSIMILE TRANSMISSION

Submission of your response by facsimile transmission is encouraged. Group 3600's facsimile number is **(703) 305-3597**. Recognizing the fact that reducing cycle time in the processing and examination of patent applications will effectively increase a patent's term, it is to your benefit to submit responses by facsimile transmission whenever permissible. Such submission will place the response directly in our examining group's hands and will eliminate Post Office processing and delivery time as well as the PTO's mail room processing and delivery time. For a complete list of correspondence **not** permitted by facsimile transmission, see MEP. 502.01. In general, most responses and/or amendments not requiring a fee, as well as those requiring a fee but charging such fee to a deposit account, can be submitted by facsimile transmission. Responses requiring a fee which applicant is paying by check **should not be** submitting by facsimile transmission separately from the check.

Responses submitted by facsimile transmission should include a Certificate of Transmission (MEP. 512). The following is an example of the format the certification might take:

I hereby certify that this correspondence is being facsimile transmitted to the Patent and Trademark Office (Fax No. (703) 872-9306) on _____
(Date)

Typed or printed name of person signing this certificate:

(Signature)

If your response is submitted by facsimile transmission, you are hereby reminded that the original should be retained as evidence of authenticity (37 CFR 1.4 and MEP. 502.02). Please do not separately mail the original or another copy unless required by the Patent and Trademark Office. Submission of the original response or a follow-up copy of the response after your response has been transmitted by facsimile will only cause further unnecessary delays in the processing of your application; duplicate responses where fees are charged to a deposit account may result in those fees being charged twice.

Art Unit: 3682

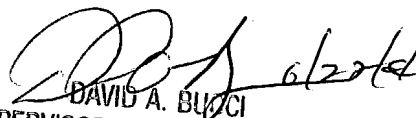
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Colby Hansen whose telephone number is (703) 305-1036. The examiner can normally be reached on Monday through Thursday and every other Friday from 7:30 PM to 5:00 PM (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bucci, can be reached on (703) 308-3668. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-2168.

Colby M. Hansen

 6/17/04
Patent Examiner

 6/20/04
DAVID A. BUCCI
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600